



**Mining
Form
MR-500**

**S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE PERMITTING
2600 Bull Street, Columbia, SC 29201
Telephone Number: (803) 896-4261 Fax Number: (803) 896-4001**

**RECLAMATION PLAN
DHEC FORM 500 DATE VERSION ADOPTED 7/1/94**

As required in Section 48-20-90 of the South Carolina Mining Act, "An operator shall submit with his application for an operating permit a proposed reclamation plan. The reclamation plan for an operating permit only must be furnished to the local soil and water conservation district in which the mining operation is to be conducted. The plan must include as a minimum each of the elements specified in the definition of 'reclamation plan' in Section 48-20-40 and information required by the department. The reclamation plan must provide that reclamation activities, particularly those relating to control of erosion, to the extent feasible, must be conducted simultaneously with mining operations and be initiated at the earliest practicable time after completion or termination of mining on a segment of the permitted land. The plan must provide that reclamation activities must be completed within two years after completion or termination of mining on each segment of the area for which an operation permit is requested unless a longer period specifically is permitted by the department."

I. APPLICANT INFORMATION

1. Name of Company: Mitchell Brothers, Inc.

2. Name of Proposed Mine: Hopwood Mine

County: Beaufort

3. Home Office Address: P.O. Box 352

(843) 522-2181

(Street and P.O. Box)

(Telephone No.)

Beaufort

SC

(843) 838-2894

(City)

(State)

(Zip Code)

(Fax No.)

4. Local Office Address: same as above

(Street and P.O. Box)

(Telephone No.)

(City)

(State)

(Zip Code)

(Fax No.)

5. Name of company personnel and their title to be the contact for official business and correspondence: Mr. Bo Mitchell - Operations Manager

6. Location of Mine: Brickyard Point Road S S-7-72

Lady's Island

State or County Hwy No.

Nearest Town or City

II. ENVIRONMENTAL PROTECTION

1. Describe practices to protect adjacent resources such as roads, wildlife areas, woodland, cropland and others during mining and reclamation.

There are no croplands on or adjacent to the site. A private dirt road will be used to access the proposed mine from Brickyard Point road. The only area to be disturbed is the proposed mine site. The remainder of the property will remain in its natural state.

2. Describe proposed methods to limit significant adverse effects on adjacent surface water and groundwater resources.

Vegetated buffers will surround the mine. A 50' buffer will remain in place surrounding all wetland areas. A groundwater recharge trench will be constructed to limit the impact to groundwater resources.

3. Describe proposed methods to limit significant adverse effects on known significant cultural or historic sites within the proposed permitted area.

The State Historic Preservation Office (SHPO) has determined that an intensive cultural resource study is not needed. There are no known significant cultural or historic sites within the proposed permitted area.

4. Describe method to prevent or eliminate conditions that could be hazardous to animal or fish life in or adjacent to the permitted area.

No conditions hazardous to animals or fish in or adjacent to the permitted area are anticipated. The pond to be constructed during the reclamation phase of the project will provide habitat for fish and animal life.

5. Describe how applicant will comply with State air quality and water quality standards as established by the S.C. Department of Health and Environmental Control.

Airborne dust is the only air quality problem that may be associated with the proposed mining project. Dry areas will be monitored and watered down as needed to control dust.

III. RECLAMATION OF AFFECTED AREA

6. State useful purpose(s) the affected land is being proposed for reclamation. More than one purpose may be checked, but information should be submitted to support the feasibility for each proposed purpose.

- | | |
|-----------------------------------------------------|----------------------------------------|
| a. Lake or pond <input checked="" type="checkbox"/> | f. Grassland <input type="checkbox"/> |
| b. Agriculture <input type="checkbox"/> | g. Recreation <input type="checkbox"/> |
| c. Woodlands <input type="checkbox"/> | h. Wetlands <input type="checkbox"/> |
| d. Residential <input type="checkbox"/> | i. Park <input type="checkbox"/> |
| e. Commercial <input type="checkbox"/> | j. Other <input type="checkbox"/> |

7. State the final maximum surface gradient(s) (slope) in soil, sand, or other unconsolidated materials on reclaimed land. Surface gradients steeper than 3H:1V (18 degrees or 33 percent) may be required to submit geotechnical data and studies to demonstrate that the steeper slopes will remain stable following final reclamation.

The reclaimed mine slopes shall be 5H:1V per Beaufort County Ordinance regarding Mining. This slope shall be maintained 3' below the proposed normal water level. A steeper slope of 2H:1V is allowed greater than 3' below the normal water level.

8. How will the final slopes in unconsolidated material be accomplished? If the slope will be by backfilling, demonstrate that there is adequate material to accomplish the stated final gradient. If gradient is to be achieved by bringing in material from outside the permitted area, state the nature of the material and approximate quantities. If the gradient is to be achieved by grading, show that there is adequate area for grading to achieve gradient (i.e., adequate distance between the property line and edge of highwall). Operator should show calculations or other appropriate information to demonstrate that there is adequate materials in backfilling and grading to meet the requirements for final slope.

Final grading will be accomplished using the on-site overburden along the pond edges. Additional materials will be imported if necessary from nearby projects that have no stockpile area available.

9. Describe the plan for revegetation or other surface treatment of affected area(s). The revegetation plan shall include but not be limited to the following: (a) planned soil test; (b) site preparation and fertilization; (c) seed or plant selection; (d) rate of seeding or amount of planting per acre; (e) maintenance.

The soils in areas requiring revegetation will be tested. Fertilizers and lime will be applied at rates determined by the results the soils tests. The seed will either be broadcast or hydroseeded with a mixture of rye grass and/or brown top millet. Rye seed will be applied at 1.1 lbs. per 100 sq. ft., brown top millet will be applied at 10 lbs. per acre. No specific maintenance is expected.

10. Provide, as a separate document, a closure plan of the mine and permitted facilities to prevent a release of contaminants from being harmful to the environment. A closure plan is not necessary for all mines, but is required where the possibility exists for (a) acid rock drainage; (b) where the National Pollutant Discharge Elimination Systems (NPDES) Permit has discharge limitation parameters other than pH and Total Suspended Solids (TSS); (c) chemically treated tailings or stockpiles (excludes fertilizer or lime for revegetation purposes).

Not applicable.

11. Method of control of contaminants and disposal of mine waste soil, rock, mineral, scrap, tailings, slimes, and other material directly connected with the mining, cleaning, and preparation of mineral substances mined and includes all waste materials deposited on or in the permit area from any source.

No contaminants or mine waste will be generated. No removal will be required.

12. Method of reclaiming settling and/or sediment ponds.

All settling and sediment ponds will be graded into the final reclaimed pond design. The entire area will then be stabilized with vegetation as described in #9.

13. Describe method of restoration or establishment of stream channels, stream banks and site drainage to a condition minimizing erosion, siltation and other pollution.

There are no existing stream channels or banks. All site drainage will be routed through areas of vegetation to minimize erosion, siltation and other pollution.

14. What are the maintenance plans to insure that the reclamation practices established on the affected land will not deteriorate before released by the Department?

The reclaimed site will be stabilized with rapidly growing, hardy vegetation. This will give way to a native landscape overtime. The area will be monitored and restored should any deterioration occur prior to release by the Department.

15. For final reclamation, submit information about practices to provide for safety to persons and to adjoining property in all excavations. Identify areas of potential danger (vertical walls, unstable slopes, unstable surface on clay slimes, etc.) and provide appropriate safety provisions. These provisions can include but are not limited to setbacks, fencing,

The property will be posted along the perimeter fence. A locked gate will be in place at the entrance of the access road. The banks of the pond will be moderately sloped and vegetated.

16. What provisions will be taken to prevent noxious, odious, or foul pools of water from collecting and remaining on the mined area? For mines to be reclaimed as lakes or ponds, provide supporting information that a minimum water depth of four (4) feet on at least fifty percent (50%) of the pond surface area can be maintained.

A geotechnical study has been completed on the proposed mine site. The reclamation pool will have a depth of approximately 8 feet. The site will exceed the minimum requirement of four (4) feet of water on at least 50% of the pond surface.

17. Identify any structures (e.g. buildings, roads) that are proposed to remain as part of final reclamation. Provide justification for leaving any structures.

After the final reclamation, the access road will remain to provide access for the family to utilize the future fish pond.

18. Attach **two (2)** copies of a map of the area (referred to as the RECLAMATION MAP) that shows the reclamation practices and conservation practices to be implemented. The following should be shown:
- A. The outline of the proposed final limits of the excavation during the number of years for which the permit is requested.
 - B. The approximate final surface gradient(s) and contour(s) of the area to be reclaimed. This would include the sides and bottoms of mines reclaimed ponds and lakes.
 - C. The outline of the tailings disposal area.
 - D. The outline of disposal areas for spoil and refuse (exclusive of tailings ponds).
 - E. The approximate location of the mean shore line of any impoundment or water body and inlet and/or outlet structures which will remain upon final reclamation.
 - F. The approximate locations of access roads, haul roads, ramps or buildings which will remain upon final reclamation.
 - G. The approximate locations of various vegetative treatments.
 - H. The proposed locations of re-established streams, ditches or drainage channels to provide for site drainage.
 - I. The proposed locations of diversions, terraces, silt fences, brush barriers or other Best Management Practices to be used for preventing or controlling erosion and off-site siltation.
 - J. Proposed locations of the measures to provide safety to persons and adjoining property.
 - K. Segments of the mine that can be mined and reclaimed as an ongoing basis.
 - L. The boundaries of the permitted area.
 - M. The boundaries of the affected area for the anticipated life of the mine.
 - N. The boundaries of the 100-year floodplain, where appropriate.
 - O. Identify sections of mine where the final surface gradient will be achieved by grading and/or backfilling.
 - P. A legend showing the name of the applicant, the name of the proposed mine, the north arrow, the county, the scale, the date of preparation and the name and title of the person who prepared the map.

THE REQUIRED RECLAMATION MAP SHALL HAVE A NEAT, LEGIBLE APPEARANCE AND BE OF SUFFICIENT SCALE TO CLEARLY SHOW THE REQUIRED INFORMATION LISTED ABOVE. THE BASE FOR THE MAP SHALL BE EITHER A SPECIALLY PREPARED LINE DRAWING, AERIAL PHOTOGRAPH, ENLARGED USGS TOPOGRAPHIC MAP OR A RECENTLY PREPARED PLAT. RECLAMATION MAP SHOULD BE THE SAME SCALE USED FOR THE SITE MAP.

IV. SCHEDULE FOR IMPLEMENTATION OF CONSERVATION AND RECLAMATION PRACTICES

19. As stated in Section 48-20-90 of the S.C. Mining Act, reclamation activities, to the extent feasible, must be conducted simultaneously with mining operations. Identify which areas or segments of the mine are not feasible to reclaim simultaneously with mining. Provide reasons why reclamation can not proceed simultaneously with mining in these areas.
- Mining activities and reclamation will take place simultaneously.
There are no areas where this will cause an issue.

- [illegible]

* Completed by the Department

YOU ARE NOTIFIED THAT:

- 1) You, the operator, must file an application to modify the reclamation plan in the event actual reclamation varies from the set forth hereinabove; and
- 2) If at any time it appears to the Department that the activities under the reclamation plan are failing to achieve the purposes and requirements of the S.C. Mining Act, the Department may modify the RECLAMATION PLAN in accordance to Section 48-20-150.

Fred Mitchell

Signature of Applicant/Operator or his Authorized Representative

Fred Mitchell

Printed Name of Applicant/Operator or his Authorized Representative

V.P.

Title

10-6-09

Date

Department Use Only

Permit No.: _____ Date Application Approved: _____ Date Bond Rec'd: _____

Bond Amount: _____ Blanket or Single Bond: _____ Permit Issuance Date: _____

ACTION TAKEN ON THIS RECLAMATION PLAN

_____ Approved _____ Denied _____ Approved with Additional Terms and Conditions

By: _____
DIVISION DIRECTOR

Date: _____